

ABSTRACT OF THE DISCLOSURE

Methods and apparatus are disclosed for synthesizing a plurality of biopolymers at predetermined feature locations on a surface of a substrate. One or more of the feature locations comprises degenerate biopolymers. One or more biopolymer subunit precursors are added, in multiple rounds of subunit additions, at each of multiple feature locations on the surface to form the plurality of biopolymers on the surface. For each feature location comprising degenerate biopolymers, the biopolymer subunit precursors comprise a mixture of biopolymer subunit precursors for forming the degenerate biopolymers at the feature location.